| ERIC Document Resume | See Instruction Sheet | DATE OF RESUME 6/16/65 | DATE RECEIVED |
|---|---|---|---|

A. PUBLICATION DATA

| 1. ERIC NUMBER | 2. ORIGINATOR CONTROL NO(S). | 3. IDENTIFICATION NO. |
|---|---|---|
| ED001855 | NA | OE 30013 |

4. AUTHOR(S):
Gunderson, Doris V.

5. TITLE OF DOCUMENT ABSTRACTED:
Research in Reading Readiness

6. PUBLICATION TITLE:
NA

7. EDITOR(S):
NA

8. PLACE OF ORIGIN
ORG. Office of Education, Department of Health, Education, & Welfare
ST.
CITY, STATE Washington, D.C.
TELE. EXT.
INST/LOC CODE

9. PUBLISHER OR SOURCE
U.S. Government Printing Office
Washington, D.C.

| 10. VOL. | 11. PAGES | 12. MO./YR. | 13. TOTAL PP. |
|---|---|---|---|
| NA | NA | 1964 | 42 |

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TYPE OF REPORT
PROPOSAL ☐
IN-PROGRESS ☐
FINAL ☒
FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR research report

16. INDEXING TERMS (6-12)

| | | | | |
|---|---|---|---|---|
| reading readiness | child development | testing | | |
| reading instruction | reading readiness tests | reading | | |
| reading skills | home instruction | | | |

17. ABSTRACT (MAX. 250 WORDS)

Research is compiled on the topic of reading readiness. Numerous research studies have demonstrated that children vary greatly in the degree to which they possess "reading readiness" and that children are definitely aided by a reading readiness program.

Disagreement exists among reading authorities on certain aspects of readiness. Areas of discussion include the description and importance of the actual factors determining readiness, the proper function of a reading readiness test, the length of time to be spent in a readiness program, the proper age to begin reading, and the nature and extent of the role assumed by the family and home in developing reading readiness. The research findings and disagreements of interpretation in each of these areas are reported and discussed.

There is a distinct need for further research in readiness for beginning reading. A number of areas have not been investigated, and many research studies lack statistically sound structuring. As the base of knowledge concerning reading readiness becomes firmer with continued research, the teaching of reading readiness will be strengthened.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION

20. DIVISION OR DEPT.

21. CONTRACT NO.

PROJECT NO.

22. TOTAL COST OF PROJECT

23. DURATION OF PROJECT

U.S. Department of Health, Education, and Welfare
Office of Education

2

ERIC Form 1

OE-30013

# RESEARCH in READING READINESS

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education

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OE-30013
Bulletin 1964, No. 8

# RESEARCH in READING READINESS

*by*

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JUL 1964

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
ANTHONY J. CELEBREZZE, *Secretary*

Office of Education
FRANCIS KEPPEL, *Commissioner*

Superintendent of Documents Catalog No. 5.230 : 30013

United States

Government Printing Office

Washington : 1964

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 20 cents

## FOREWORD

THIS BULLETIN is based upon published and unpublished research concerned with readiness for beginning reading. The published research appeared originally in various professional journals; the unpublished research was conducted in colleges and universities throughout the country. Without the excellent cooperation of individuals in the field of reading who transmitted abstracts of unpublished research studies conducted in the various institutions, this publication would not have been possible.

It is hoped that the bulletin will be useful to teachers of reading, supervisors of English and reading, college teachers, and students interested in research findings.

Acknowledgment is made to the members of the Subcommittee on Reading of the National Conference on Research in English for their contribution to the project.

J. DAN HULL, *Director*
Instructional Programs Branch

ERIC R. BABER
*Assistant Commissioner*
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# Introduction

"READINESS for reading" is a phrase familiar to anyone interested in the teaching of reading. Readiness is an essential factor in any phase of learning. If the individual is to learn, some foundation for that learning must be established. Relatively few articles concerning the place of readiness in areas other than reading appear in educational periodicals, but in reviewing the literature in the field of reading, one finds many concerned with readiness.

Reading readiness has various connotations. It is usually referred to in a reading context as readiness alone and is concerned with those factors assumed to be prerequisites to achieving success in beginning reading. It may be thought of by some as indicating the chronological age necessary for the child to learn to read; others may believe that readiness is dependent upon social or emotional maturation. However, as Russell states, "The modern concept of readiness is that it is based on a combination of physical, mental, social, and psychological factors." (56, p. 168)*

Providing prereading readiness programs assures children of adequate preparation for the process of reading which means that they are not plunged precipitously into the formal reading instruction for which the majority of entering first graders are unprepared. However, readiness for reading is not confined to the primary years alone; it is an essential element throughout all the years of reading instruction whether at the elementary, secondary, or college levels.

A considerable portion of the readiness necessary for beginning reading is made up of a group of learnings essential to the process of learning to read. Russell has stated:

> **Reading ability does not suddenly appear in the first grade. It is based upon a number of factors associated with readiness and is an expansion of abilities acquired earlier rather than an abrupt step upward. (56, p. 91)**

Bond and Wagner list 10 activities which are important in reading. These include picture interpretation, left-to-right orientation, experi-

* Numbers in parentheses are keyed to references in the bibliography.

ential backgrounds, extent of vocabulary, quality of oral English, ability to attend, to sense a sequence of ideas, to follow directions, to handle equipment, and desire to read. (5, p. 107)

Durrell discussed several concepts of reading readiness, some of which he considered false and, if put into practice, responsible for a number of reading failures. One of these false concepts he terms the "mysterious appearance concept" which implies that "a child will learn to read when he is ready" so that readiness activities are not an essential part of instruction. Another concept considered false by Durrell is that emotional and personality adjustment is the basis of reading success. The theory that a mental age of 6 or more is necessary to learn to read is also challenged by Durrell, who states that correlations between mental age and learning to read in the first grade range from 0 to 0.60. Such a relationship is too low to be indicative of success. He feels that other factors are more important to success in reading than intelligence test scores. (18, p. 46–48)

Robinson emphasized the importance of the readiness factor in learning to read. She also stressed that both visual and auditory discrimination can be increased by specific instruction and that the desire to read can be "quickened through reading aloud stories and factual materials which interest young children." (55)

Smith, summarizing the research in reading readiness in 1950, stated that the experiential backgrounds of children represent a significant factor in learning to read. She found that research emphasized the advantages of opportunities for children to make some use of the elements of the reading process as a preparation for initial reading in books. (60)

Durrell stated that the greatest single area of improvement in reading instruction was that of reading readiness. He commented that research has shown clearly that two background abilities are essential to the acquisition of a sight vocabulary, each of which can be taught late in kindergarten or early in the first grade if a child does not acquire them through his preschool experience. These are the ability to see differences in printed words and to notice separate sounds in spoken words. (19)

Olson has stated that obtaining almost any performance from children gives an indication of "so-called reading readiness." In his opinion, evidence is lacking that parents and teachers can hasten progress through the stages of readiness unless deprivation has existed. (49, p. 142–143)

## Value of Readiness Programs

A NUMBER of studies have been conducted for the purpose of determining the value of readiness programs. Edmiston and Peyton reported a study which indicated that readiness is a valuable part of the reading program. Fifty-four children whose test scores indicated a definite possibility of poor achievement in reading were placed in two first-grade groups. Three 4-week periods of readiness training were provided. At the end of the first period of readiness instruction, 32 pupils achieved satisfactory scores and proceeded with the regular first-grade reading program. Of the remaining 22 pupils, 15 had four additional weeks of readiness activities before entering the first-grade reading program; seven pupils received an additional 4 weeks of instruction. An examination of the data indicated that, if pupils were given readiness instruction, only those with a mental age of below 5 years, a *California Test of Personality* score below 30, and a reading readiness score below 25 had little or no chance of attaining first-grade reading achievement. The writers concluded that the third 4-week period of readiness was unessential, since all the pupils whose reading achievement scores were above 1.5 had successful readiness scores at the end of the second 4-week period of such instruction. (22)

A study to test the value of a reading readiness program was reported by Sister Mary Nila. From a total population of 329 first-grade children, control and experimental groups with 33 children in each group were selected. The groups, who were considered not ready for reading instruction, were equal in the mean predicted reading grade score and tested 1.9 or less on the readiness test. The control group was given formal reading instruction immediately upon entering school; the experimental group followed a readiness program for 3 months. Both groups were tested for reading achievement in May. The control group had 8 months of formal reading instruction and the experimental group, 5 months of formal reading

instruction and 3 months of readiness activities. The mean predicted reading grade score for both groups was 1.8. The reading achievement score of the control group was 1.9 and of the experimental group, 2.1 There were 8 pupils in the control group and 2 pupils in the experimental group with low achievement scores of 1.1 to 1.4; 8 pupils in the control group and 15 in the experimental group had high achievement scores of 2.3 to 2.4. (58) The writer concluded that the readiness program proved to be beneficial in preparing children for reading instruction.

Agreement may be found among educators regarding the importance of readiness for reading; rarely does one find its importance minimized. McCracken projected the view that too much stress has been placed on readiness or as he stated "the trend in readiness places the blame on the children." Operating on the premise that the material provided in a basal reading program was adequate if it could be taught to the children, he prepared filmstrip frames correlated with the lessons in the basic program for the first grade. Every lesson then was visualized for the learners. At the end of the school year an evaluation of the three groups involved in the study was made. The reading achievement scores on the *Gates Primary Reading Tests* were 2.72, 2.70, and 2.45 for the three groups. McCracken stated that there were no low scores. Previously, at least six pupils had been retained in the first grade each year. No revolutionary innovations were instituted, according to the writer; rather, the program involved an effective visual approach to the subject. McCracken believed that the extension of prereading activities farther into the school year was unwise. (40)

A study concerned with methods of grouping to provide instruction for children of different readiness levels was reported by Bremer. Two plans of grouping were compared, and first-grade reading achievement was evaluated. The Anglo-American pupils in Amarillo, Texas, were classified according to low, average, or high readiness levels. Some of the children in the low readiness group were placed in separate classrooms; others remained in the regular classroom. Results indicated that the mean reading score of the group in which the low readiness pupils remained in the regular classroom was significantly greater than that of the group placed in separate rooms. Bremer concluded that any plan of grouping used in beginning reading instruction must allow for flexibility, and that there is some basis for believing that flexibility can be provided better in a heterogeneous group. (8)

The problem of gain or loss for a child if formal systematic instruction in reading is not provided until the child is ready to read

was the subject of a study reported by Bradley. Two groups, composed of 31 children each, matched on the bases of sex, chronological age, intelligence, and socioeconomic level, were studied for 2 years. In addition, a comprehensive test was given at the end of the third year. The teacher remained with the experimental group for 2 years; the control group had a different teacher each year. The program of the experimental group consisted of varied language experiences and activities. Three reading groups were formed: one group spent 5 months in a readiness program before receiving any reading instruction, the second group spent 8 months, and the third group, 10 months in readiness activities. The same basic reading series was used with both experimental and control groups. All of the children in the control group were given reading instruction from the first preprimer in the first month of the first grade. The second-grade teacher taught the three groups at the book level indicated by the first-grade teacher. Bradley concluded that the soundness of the readiness approach to all school learnings was reaffirmed in a review of the findings of the study, for test results indicated that children participating in the readiness program attained a degree of reading achievement equal to that of the control group by the end of the second year. By the end of the third year the experimental group was above grade standards and showed slight gains over the control group in other skills such as work-study, basic language, and basic arithmetic. An early intensive start in reading and other academic subjects did not result in greater gains for the control group. It was felt that the time spent in the early months of the first year could have been used with profit to develop social and emotional growth, and the experiential background of the control group. (6)

Bradley's study appears to reinforce the theory that readiness activities are valuable in promoting reading achievement. Since Bradley assigned all children to either an experimental or a control group whether or not they had demonstrated a need for readiness, the results of her study are even more convincing, for the control group necessarily received some readiness instruction in the program of the basal readers. Some of the children in the experimental group may have been penalized by the long period spent in readiness training which may produce frustration in children anticipating learning to read.

Heir, stressing the importance of reading readiness, stated that one of the causes of failure in reading in later grades is an inadequate reading readiness program for the first-grade child. The child's attitude is part of a general mental, emotional, and physical preparedness for reading. Important instructional tasks of the readi-

ness program include the development of language and vocabulary. (29)

McDowell emphasized the importance of recognizing individual differences, stating that the "only acceptable reading readiness program is one which assures some success to all children." Reading should be both easy and enjoyable to the child. (41)

If readiness activities are an essential preparation for reading for the majority of children, it would seem that children from disadvantaged backgrounds are in particular need of many types of experiences. Brazziel and Terrell state that the child from a disadvantaged home comes to school less prepared to profit from formal instruction than the child from middle or upper income groups. His handicap is manifested "by a gradual decline in his scores on intelligence and achievement tests as he moves through the grades." The development of readiness is of great importance if these children are to take advantage of learning opportunities regardless of home circumstances. The investigators wished to determine whether a change in the approach to registration, combined with parent-teacher cooperation to develop the children's readiness for learning, could overcome the effects of the heritage of a disadvantaged group of first-grade Negro children in Millington, Tennessee. The school had no kindergarten. The population consisted of an experimental group of 26 children and three control groups of 25, 21, and 20 children. The majority of the children were from families that depended partly or entirely on farming for a livelihood. Books were not highly regarded in the homes. The children had had no opportunity to travel or to visit institutions such as museums or the theater. Both diet and housing were below average American standards.

A number of procedures were carried on in the experimental group. The teacher helped with preschool physical examinations and held parent conferences concerning any physical defects. Two registration days were held, one for the children and one for the parents, who spent the day with the teachers and the principal. During the 6-week readiness period, the parents met weekly with the teacher for group discussion on the progress of the program in addition to personal conferences. Readiness activities included watching a 30-minute daily television program and using readiness readers. Context reading and experience charts were introduced the first day of school. Weekly readiness tests taken from the *Weekly Reader* were given in an attempt to develop test wisdom. At the end of the 6-week period the *Metropolitan Readiness Test* was administered to both groups. The mean reading readiness scores were 48.2 for the

experimental group and 38.1, 35.9 and 36.5 for the control groups, with the difference in scores significant at the one percent level of confidence. (7)

### Comments

Almost all authorities in the field firmly advocate a period of readiness before reading instruction is introduced. Readiness activities are particularly beneficial to underprivileged children. The length of such a program is governed by the needs of the individual students. Some children may be ready to read when they enter school and will not need to spend any time in readiness activities, while others may need as much as 8 weeks of readiness instruction. It has also been found that children classified in the low readiness category can profit from association with children of higher readiness levels.

## Readiness Factors

THE FACTORS involved in readiness have been the subject of a number of studies. Russell states that general agreement exists that readiness is dependent upon four factors: physical, mental, social-emotional, and psychological. (56, p. 167)

Karlin reported a study, the purpose of which was an attempt to ascertain whether certain measures of physical growth, used alone and in combination, were related significantly to success in beginning reading in first grade. The population was comprised of 250 children in grade one enrolled in four elementary schools. Analysis of the data led the researcher to conclude that the measures of physical maturation did not appear to be related to reading readiness test scores. He stated that the relationship between skeletal development and reading readiness achievement test scores is definite, but it is too small to overcome the influence of chance when predictions of the dependent variable are attempted. (35)

Bond and Wagner state that the role of speech defects as a cause of difficulty in learning to read is somewhat uncertain, but note that a child with a speech defect is handicapped if the method of instruction emphasizes oral reading. (5, p. 193)

The purpose of a study made by Carroll was to determine if learning facility in the preparatory period for reading was affected by sex differences. If so, it was assumed that such differences would appear in the results of tests given during the reading readiness period. The writer concluded that there were significant sex differences in favor of the girls which appeared during the readiness period. Since differences existed before formal training took place, Carroll felt it was reasonable to believe that such differences which might appear later in any measurement of achievement or aptitude might be due to reading readiness factors alone. (9)

Durrell and Murphy reported the results of a study concerning auditory discrimination. Fifty children who had difficulty in learning to read, and who were given 10 minutes of ear training daily

for a period of 6 weeks, were matched with a group approximately equal in intelligence and learning rate. Learning rate was measured by teaching seven unfamiliar words to the groups, then testing each child an hour later. At the close of the teaching period, the experimental group had increased in learning rate from an initial score of 2.5 words to a score of 5.2 words on the final test, a gain of 2.7 words. The control group made a mean gain of one word in the same period. (20) The above study would appear to reinforce the theory that auditory discrimination can be taught.

Maddax investigated the possibility of a relationship between reading readiness and the ability to produce consonant sounds among first-grade children. One hundred and fifty-five first-grade students were given the *Lorge-Thorndike Intelligence Test*, *First Year Readiness Test*, and an unpublished articulation test. Among Maddax's findings were: Children with articulation errors score lower on readiness tests; older children make fewer articulation errors; the higher the child's IQ score, the fewer the articulation errors; and girls develop more consonant sounds than boys. (38)

The purposes of a study conducted by Perry were to determine the most effective method of teaching word recognition for each of 16 children entering the first grade by the use of readiness and learning methods tests, and to ascertain the predictive value of readiness factors and visual and auditory discrimination as measured by tests. Tests included *Harrison-Stroud Reading Readiness Profile*, *Mills Learning Methods Test*, *Metropolitan Readiness Test*, *Lorge-Thorndike Intelligence Test*, *California Test of Personality* and *Stanford Achievement Test.* Perry's conclusions, at the close of the 1-year study, are similar to those drawn from other studies. No one method of teaching reading is best for all children, as individuals learn to recognize words more effectively by different teaching methods; certain readiness factors measured by readiness tests should be considered in planning a reading program; and mature children with higher IQ's learn words by more than one method and retain them more easily than do children who are less mature and who have lower IQ scores. (50)

Wheeler attempted to determine whether proactive and retroactive inhibition occurred in relation to words presented first as word forms only, without name or meaning, in reading readiness material, and later as meaningful words in reading material. Three of the four first-grade groups began the use of readiness material at the same time with each group progressing at different rates. She concluded that the group missed a greater percentage of words presented in readiness than those which had not been presented;

inhibition was caused by the presentation of words as word forms without name or meaning in reading readiness material, a conclusion true of 27.2 percent of the group; some inhibition was evidenced for 72.8 percent of the cases, and ease in actual reading of words previously presented as meaningless symbols in readiness material was evidenced for only one child. (70)

The purposes of Williams' study included: Determining factors affecting reading readiness and ascertaining the time that reading instruction should begin; devising criteria for distinguishing among preprimer, primer, and first-reader levels of reading; and discovering materials and methods appropriate for effective teaching of reading to first-grade students. Some of Williams' conclusions might be considered questionable by other writers in the field, particularly her statement that the best time to begin reading instruction is when the pupil has achieved a mental age of 6 years, 6 months, and that readiness for reading involves formal preparation, preferably including kindergarten and part of the first grade. Less controversial are her other findings: Emotional adjustment is essential in reading readiness; auditory readiness increases the possibilities of the child's learning to read; and the physical condition of the child will have a direct bearing on his learning to read. (71)

The relationship between intelligence and readiness for reading has been considered in a number of studies. The purpose of a study made by Stephey was to determine the relationship between intelligence, chronological age, and sex in regard to readiness for reading. The *Metropolitan Readiness Test* and the *Stanford-Binet Intelligence Scale* were administered to 50 first-grade students. The investigator concluded that readiness and intelligence test results are valuable criteria for teacher use in determining reading readiness; neither chronological age nor sex appears to be an important factor, although she felt that younger groups should have longer readiness periods than older groups and boys longer periods than girls. (64)

A study investigating the value of certain techniques for predicting readiness was conducted by Maggart. The tests given to 23 students in grade one were the *Metropolitan Achievement Test*, *Metropolitan Reading Readiness Test*, *SRA Primary Mental Abilities Test*, and *Gates Primary Reading Test.* Maggart found that chronological age is not closely related to reading achievement in grade one, but that SRA test scores are related to reading success. (39)

Natale (46) attempted to determine the significance of intelligence in relation to certain factors in reading readiness: Range of information, perception of relation, vocabulary opposites, memory span, and word discrimination. Twenty-four first-grade students were

given the *California Maturity Pre-Primer Tests* and *Van Waganen Reading Readiness Tests.* She found that the relationships among intelligence and vocabulary opposites, memory span, and word discrimination were significant at the 1-percent level of confidence, but that there were no significant relationships among intelligence, range of information, and perception of relations.

Another attempt to determine whether a significant relationship existed between intelligence and certain factors of readiness in reading was made by McMillan. (42) One hundred pupils in the first grade were studied for 2 years and 3 months. Both intelligence and reading readiness tests were administered. The investigator found several significant relationships: Between intelligence and reading readiness, significant at the 1-percent level; between intelligence and use of context, significant at the 2-percent level; and between intelligence and use of context and auditory discrimination, significant at the 5-percent level.

### Comments

It is generally recognized that various physical factors are related to learning to read. If a child has a visual or an auditory defect, he cannot be expected to see words clearly or to develop discrimination in word sounds. However, these defects do not necessarily predispose failure on the part of the child to learn to read, for adjustments in instructional methods can be made by the teacher. A teacher who suspects that a child may have a visual or an auditory defect should recommend that an examination be made. In many schools the sole instrument used to measure visual acuity is the Snellen Chart which, most authorities agree, is inadequate. As a result, children may be placed in a reading situation not only without the needed corrections for vision but also unaware that any correction is needed. Auditory acuity usually is gauged by use of the audiometer. Its simplicity of operation enables schools to obtain a fairly accurate estimate of a child's hearing.

## Length of Readiness Program

A CONTROVERSIAL issue in the area of readiness is the length of time children should spend in a readiness program. The general consensus is that no specific period of time should be designated; each child has needs which can be met only when he is considered individually. Russell states that since children are ready to begin reading at different times because of varying backgrounds and abilities, no specific rule can be laid down for any child without knowing him as an individual. (56, p. 185) Hildreth's opinion is that several factors are involved: The comparative maturity of the group and the range within the group, the extent to which beginners are grouped for instruction, and the proportion of slow learners in the class. (31, p. 182)

Some writers indicate that the readiness period should be clearly specified. Reese stated that one plan which pays dividends is that of providing an extended period of readiness for children in the first grade regardless of the scores achieved on a readiness test. Such a period might last for 3 months to a semester for even the able first-grade pupils and longer for those less well-developed children. (54)

Miller stated that the well-adjusted child with average intelligence is ready to begin learning to read by the third or fourth week of school. (44) Durrell found many children ready to begin reading immediately upon entering school. (17)

Stock warned against misapplication of the readiness principle in dealing with fast-learning pupils whom he described as those in the upper third or fourth of a reasonably normal distribution. He stated that prolonged or unnecessary use of readiness materials is undesirable, for a pupil can be ready to learn to read but not doubly or trebly ready. Undesirable consequences may ensue; a period of time is lost, and the child's initial eagerness to read is dissipated with the result that the first step in retardation has taken place. The readiness principle can be misapplied also in dealing with slow-

learning pupils. Children placed in this category need a great degree of developmental work "both by nature and the teacher." There should be much preparation for reading activities; the postponement of the use of books is not necessarily the equivalent of the postponement of reading instruction; frequently, the "use of books is not postponed long enough." (66)

An adequate readiness program should aid in preventing possible future reading retardation. Lichtenstein stressed the necessity of analyzing readiness thoroughly so that no child is forced to begin reading before he is ready. Such a practice should help to eliminate the traumatic experiences with reading which "are in the history of nearly every severely retarded reader." (37) Sochor seconded the point that readiness for reading must be ensured for each student if adequate and efficient reading ability is to be developed. (62)

Durrell summarized the major findings of a large-scale study involving more than 2,000 first-grade children which was conducted at Boston University. The purposes of the study were to assure reading success among first-grade children; to evaluate reading readiness practices and concepts, and to study relationships among various aspects of reading growth. Findings of the study revealed that most reading difficulties can be prevented by an instructional program which provides early instruction in letter names and sounds, followed by applied phonics and accompanied by suitable practice in meaningful sight vocabulary and aids to attentive silent reading. Early instruction in letter names and sounds produces a higher June reading achievement than does such instruction given incidentally during the year. Children with high learning rates and superior background skills make greater progress when conventional reading readiness materials are omitted from their reading programs. Children entering the first grade present wide differences in levels of letter knowledge. As all children were able to match capital letters as well as lowercase letters, exercises in this ability should be omitted from reading readiness materials. Tests of knowledge of letter names at school entrance are the best predictors of February and June reading achievement. Chronological age shows little relationship to any of the factors measured at any testing period and correlates negatively with reading achievement. Mental age, as measured by the *Otis Quick-Scoring Tests of Mental Ability*, has a low relationship to reading achievement and to letter and word perception skills. Durrell concluded by stating that there appears to be no basis for the assumption that a sight vocabulary of 75 words should be taught before word analysis skills are presented. Of the 1,170 children tested in February, only 9 achieved a sight vocabulary

of more than 70 words when they knew fewer than 20 letters. While a knowledge of letter names and sounds does not assure success in acquiring a sight vocabulary, lack of that knowledge produces failure. (17)

Nicholson made an extensive and precise inventory of certain visual, auditory, and kinesthetic abilities in relation to letters and words, to learn the retention capacities for sight words, and to relate these abilities to chronological age, mental age, and sex of 2,000 first-grade children in the second week of school. Tests administered included the *Boston University Letter Knowledge Tests*, *Murphy-Durrell Diagnostic Reading Readiness Test*, *Otis Quick-Scoring Mental Ability Tests*, and *California Mental Maturity Test.* Results of the study indicated that children bring to the first grade wide differences in learning rates and in letter and sound perception. These differences were so great that Nicholson drew several conclusions. For the many children who are ready to read from the first day of school, instruction in current reading readiness programs is entirely unnecessary. Different levels and content of instruction must be provided for the reading readiness period. There are marked differences in learning rate, in levels of letter knowledge, and in ability to perceive sounds in words. Very few children need perceptual experiences on the "letter matching" level. Almost every child included in the study was able to match letters correctly; the lower abilities of matching nonword forms and pictures are not needed in reading readiness programs. On the basis of a study of relationships among various factors measured, Nicholson considered several conclusions justified: Chronological age provides an insecure basis for first-grade admission for younger children in the grade brought backgrounds of learning rate and perceptual abilities almost equal to those of older children. Thus no solution to first-grade reading difficulties is to be found by raising first-grade entrance age. A knowledge of the names of letters provides the greatest assurance of learning to read; tests which measure association with name and form of letter show the highest correlations with learning rate for words. High mental age does not assure a high learning rate in beginning reading. Although children with very high mental ages have better letter knowledge, it is apparently the letter knowledge rather than the mental age which produces the high learning rate. (47)

Nicholson's findings concerned with knowledge of letter names are substantiated by Olson, who followed the growth in reading and word perception of the same 2,000 children. In addition 1,172 children were tested individually on oral reading, naming capital and

lowercase letters, giving letter sounds and consonant blends, and on applied phonics. On the basis of the data, Olson concluded that tests administered in September to measure knowledge of letter names provide the best predictions of February success in reading. February tests of various types of ability in phonics showed the highest correlations with reading achievement. (48)

### Comments

Spending an extended period of time on readiness activities would appear to be an inefficient practice. Children who are immature in one or several areas probably do need a relatively extended readiness program, but for those children who are ready and eager to begin reading immediately or soon after entering school, reading instruction should not be postponed or the initial enthusiasm for reading may be destroyed.

No mandatory rule can be established in regard to the period of time designated as that of readiness. The amount of time devoted to readiness must be governed by the needs of the individual children.

## Reading Readiness Programs

MANY EDUCATORS emphasize the fact that the development of readiness should not be left to time and chance; rather, it can be achieved best through various classroom activities. Emphasis is placed on such elements as visual and auditory discrimination, listening, and developing language ability. Robinson stated that language ability can be developed through experience, provided teachers converse with children about the experiences. The desire to read can be encouraged by reading aloud stories and factual materials which interest young children. (55) According to Gilpatrick, at least one-third of the class day should be given to speaking skills "fostered by dramatic productions where all will participate" since one of the prerequisites of reading is language readiness. (25) In addition to developing the skills and abilities necessary for reading, another function of the readiness period is that attitudes toward books, pupils, and the school itself are formed during this time.

Smith examined research in reading readiness and stated:

> All of these studies point toward an advantage for children who have contacts with symbols and who have had opportunities to make some use of elements of the reading readiness process as a preparation for initial reading in books. The practical implication is that we must make definite provision for opportunities offering possibilities of growth in reading as well as for growth in other areas. We should view reading as one component of the total pattern of child development. Reading is such an important component, however, that it can't be left to chance. (60)

Russell and Karp stress the need for reading readiness activities because children enter first grade at an earlier age than they did several generations ago. Rather than wait for the children to attain readiness for reading, the teacher should plan a rich program of activities to provide experiences necessary for success in beginning reading, and to develop the child's social, emotional, visual, auditory, language, and listening behavior. (57)

Readiness activities and aims have been suggested in a number of

articles. Gans listed two general objectives in working with children up to the ages of 5 and 6. The child should have a happy, satisfying time "in taking hold of his world," and he should be left "with a good feeling" about any encounter he may have with any of the aspects of learning to read. (24) Wagner and Middleton listed some "pathways to success" in reading. These include self-expression, listening, attention to environmental details, detection of similarities and differences, assuming responsibility, following directions, and literary appreciation. (69) If reading success is to be achieved, certain instructional tasks are essential such as teaching use of pictures, listening skills, use of context, auditory and visual discrimination, left-right sequence, and letter names. (28) Experience should be provided to insure meaningful concepts; children need direct experiences accompanied by free language expression and interchange. Specialized work with word types such as identifying nouns with objects and pictures also can be conducted. (61)

Alsup (2) attempted to determine the procedures used and problems encountered by teachers in promoting growth for initial reading by interviewing 60 first-grade teachers in the Columbia, Missouri, area. He concluded that the teachers were making practical use of many of the research findings in reading readiness. Weaknesses in the existing programs included inadequacy of visual and auditory screening, lack of enriched readiness programs for accelerated learners, and lack of an understanding of procedures to aid children in social and emotional adjustment to school. Among the problems met in promoting growth for initial reading were: establishing independent work habits; helping children to overcome emotional and social difficulties; adjusting to overcrowded classrooms and related problems; relating the phonics program to the basic readiness program; helping the ambidextrous child to establish hand preference; and helping parents of slow learners to realize the necessity of an extended readiness program. Although intelligence tests were administered in a large number of classrooms, the data derived from the tests had not been used to maximum advantage in the readiness program.

Naisbitt evaluated a program of kindergarten readiness activities based on the interests and needs of children. Forty-seven of the 55 children in the study were ready to move to the next level of reading at the close of the program; five children needed additional readiness activities in the first grade, and three children were to remain in kindergarten. Naisbitt concluded on the basis of readiness tests that the program had been successful enough to be used as a guide for future kindergarten planning. (45)

Spiggle studied the readiness and early reading program in one Tennessee school for a 6-month period. The population consisted of 32 first-grade students who were given the *Lee-Clark Reading Readiness Test* and the *Lorge-Thorndike Intelligence Test.* Recommendations made by Spiggle included: The first-grade curriculum should be flexible in order to provide for individual differences; all children entering first grade should be 6 years of age by September 1; parents of children ranking low on a readiness test should be informed that the child may remain in grade one for more than one year; and the slow learner should be provided with many practices which would give him feelings of success and satisfaction. (63)

Wagner examined publications concerned with reading readiness practices issued by a number of school systems. He found certain themes prevalent in the majority of these publications:

1. Readiness suggests that there is an optimum time for any particular learning, and early attempts at instruction are usually laborious and unsuccessful.

2. It is important to develop physical, social, and emotional readiness as well as mental readiness.

3. The use of a wide variety of experience charts is in general practice.

4. Oral language usage and adequate listening skills are given substantial attention.

5. Thoughtfully selected firsthand experiences are necessary in order to tie pupils' experiences to the written symbol.

6. Not all children are ready at the same time for the same experience. (68)

### Comments

More similarities than differences appear to exist in practices and procedures used in reading readiness programs. Readiness activities should concentrate on only those deficiencies in a child's background which are essential to success in learning to read. If a child who is ready to read is required to spend time in unnecessary activities, only frustration will result.

## Readiness Materials

MATERIALS used in reading readiness programs have been the topic of some discussion. Ploghoft reported a study in which one group of children, Group A, composed of 13 girls and 15 boys, used readiness workbooks during the last 9 weeks of kindergarten. Another group, Group B, comprised of 12 boys and 15 girls, did not use them. A standardized readiness test was administered to both groups upon entrance into first grade. The groups were equal with respect to mental age. Ploghoft stated that the results of the readiness test appeared to show that Group A did not benefit from the use of the readiness books to the extent that they were any more ready to read than Group B. (51)

Collins (11) attempted to determine the relative efficiency of a particular readiness workbook and a teacher-developed readiness program. Twenty-seven kindergarten pupils were paired on the bases of IQ scores, socioeconomic status, and stability of homes. The *Scholastic Mental Ability* and *Lee-Clark Reading Readiness* tests were administered. She concluded that there was no significant difference between the two procedures.

Durrell and Nicholson state that, although readiness workbooks may be of value in developing such abilities as language fluency, motor skills, and attention to nonword forms and sounds, their contribution to reading readiness is doubtful. (21)

Blakely and Shadle reported a study designed to ascertain whether a kindergarten child showed more readiness and potential for reading after he had completed the readiness books of a basal reader program or after he had had an activity program of experience. The population consisted of a control group and an experimental group with 28 children in each. Children were paired so that the mean age of girls in both groups was 5 years and 6 months and of boys, 5 years and 9 months. Both groups were taught by the same teacher. In November 1959, both groups were given a Maturity Check List; in January, the *Metropolitan Readiness Test* and Read-

ing Readiness Appraisal Check List; and in May, other forms of the same tests. The *New Basic Reading Test* to accompany *We Read Pictures* was also given.

Activities in which the experimental group engaged included free play, individual evaluation of free play, activity periods, and activities correlating with the unit in progress. The control group engaged in activities associated with the *Basal Series Readiness Workbook.*

The experimental group made a statistically significant gain on the Maturity Check List and the Reading Readiness Appraisal Check List. Boys in the experimental group made statistically significant gains on the *Metropolitan Readiness Test,* Reading Readiness Appraisal Check List, and *New Basic Reading Test.* There were no significant differences between girls in the experimental and control groups. The writers concluded that, as far as boys were concerned, the experience-activity approach at the kindergarten level results in significantly greater readiness to read than does the basal reader readiness workbook approach. In the case of girls, readiness to read develops with equal efficiency under either approach. Since girls profit equally from either approach, and boys profit to a greater extent from the experience-activity approach, the researchers recommended the use of the experience-activity approach. (4)

### Comments

With regard to the materials, either commercial or teacher-constructed, to be used in a readiness program, a number of factors should be considered: The maturity of the children, availability of commercially published materials, socioeconomic and experiential background of children, and ability of the teacher to construct original materials. Reading readiness activity is not confined to the use of materials alone, for other experiences are of value in preparation for reading.

## Reading Readiness Tests

SCHOOLS FREQUENTLY administer reading readiness tests in an attempt to determine the time at which children are ready to receive formal reading instruction. The purpose of a study reported by Powell and Parsley was to investigate the relationship between the results of the *Lee-Clark Reading Readiness Test* given at the beginning of the first grade and the results of the *California Reading Test* administered at the beginning of the second grade. The population consisted of 703 first-grade pupils divided into three groups on the basis of grade placement: A low group, 0.0–0.4; a middle group, 0.5–1.4; and a high group, 1.5–1.9. The correlation coefficients between results of the two tests were .48* for the low group, .50* for the middle group, and .25* for the high group. The investigators concluded that the *Lee-Clark Test* was useful primarily as a predictor of the total reading test results for the entire group, but expressed doubt as to its usefulness in dividing children into reading groups. (53)

Karlin attempted to re-examine the desirability of the practice of using existing reading readiness tests almost exclusively to measure the extent of readiness. One hundred and eleven children in grade one were given the *Metropolitan Readiness Test* in September and the *Gates Primary Reading Test* in May. Criteria included an IQ score of 90 or higher, normal near- and far-point vision, hearing loss of not more than ten decibels, freedom from any serious speech defect or foreign language influence, attendance in kindergarten, and social and emotional maturity. Analysis of the data revealed a very small relationship between the scores on the readiness and the achievement tests. Karlin stated that it was "virtually impossible to predict from a reading readiness test score how well any child in the sample will do on the reading test." Karlin concluded that the findings of the study clearly indicated the need for a better understanding of what is measured by readiness tests. (36)

* Significant at .05 level of confidence.

The purpose of a study reported by Henig was to determine the "cooperative forecasting value" of the *Lee-Clark Reading Readiness Test* and of teachers' estimates of their pupils' probability of success in learning to read. Ninety-eight first-grade children were given the readiness test and also were rated by their teachers on the basis of commonly accepted indications of reading readiness, such as ability to discriminate between sounds and a store of ideas as indicated by extensiveness of vocabulary. At the end of the year the scores on the readiness test and the predictions of teachers were compared with the reading ability of the children. Henig concluded that the readiness test forecast quite successfully the outcome of children's experience with a formal reading program. He also found that the teachers' judgments had just as high a degree of predictive value as the tests. (30)

Baker examined the records of 216 children, all pupils in the middle grades whose scores fell below the national norm on a reading test administered the second month they were in a given grade (4, 5, or 6), and for whom first-grade reading test scores were available. Three facts were revealed which she considered significant. In each grade the median chronological age of the children was below 6 years, 6 months in September of the year of entrance into first grade. The percentage of the pupils whose scores stood at or above the national norm in the first grade was abnormally high, and in every group the downward trend from the high scores made in first grade was significant. Baker felt that a disturbing element in the current arguments favoring high levels of achievement on reading tests in the primary grades is that value is attached to the comparatively narrow range in the scores achieved. Recognition should be given to the fact that reading is a process of obtaining meaning from abstract symbols which must be preceded and continuously reinforced by numerous enriching direct experiences which will give meaning to those symbols. (3)

A number of studies have been conducted concerning the relationship between readiness test scores and reading achievement. The study by Clark and others represented an attempt to ascertain the accuracy of readiness test scores on the *Metropolitan Readiness Test* as predictors of academic achievement measured by results of the *Metropolitan Achievement Test.* The population consisted of 114 first-grade children enrolled in five classrooms. Rank order correlation coefficients indicated a positive correlation between scores on readiness and achievement tests. (10) Stewart investigated not only the relationship between readiness for reading and future success in reading, but also between group and individual readiness tests.

Twenty-nine first-grade children were given both types of readiness tests plus achievement tests. Stewart concluded that there was a very significant relationship between individually and group-administered reading readiness tests and that success in reading was achieved when instruction was delayed until readiness instruments indicated readiness for reading. (65)

Results of three reading readiness tests were compared in an attempt to determine the similarity of the results and their efficacy as predictors of reading achievement for 28 first-grade students. Smith concluded that the three tests—*Metropolitan*, *Harrison*, and *Science Research Associates*—were significant predictors of reading achievement. (59)

In a 4-month study conducted by Allen and others, the reading achievement of 311 first-grade students was found to be related to various abilities presented in readiness workbooks of basal reading series and knowledge of letter names and sounds. The *Otis Quick-Scoring Mental Ability Test* and unpublished readiness and reading achievement tests were administered. The investigators found that reading achievement appeared to be more closely related to knowledge of letter names and sounds than to abilities taught in readiness workbooks of basal reading series. (1)

Jackall compared results of the *Individual Record Check List* with those of the *Lee-Clark Reading Readiness Test*, as a predictor of reading achievement in the first grade. Other tests given were the *Otis Mental Ability Tests* and the *Scott, Foresman Reading Achievement Test.* Twenty-eight children who had attended kindergarten and 55 children who had not attended were included in the 1-year study. Jackall concluded that the reading scores, mental age, and *Individual Record Check List* scores were sufficiently correlated with reading success to warrant their use in grouping in first grade, but that scores on the *Lee-Clark Readiness Test* were not significantly correlated with the criteria to warrant use of the test. (33)

### Comments

A readiness test should be used to indicate the particular aspects of readiness instruction needed by individual children rather than to determine grouping procedures. A child who demonstrates by a high score on a readiness test that he is ready to read should be introduced to reading instruction, but his placement in a reading group is dependent on many other factors, principally his specific readiness needs and his early success or failure in reading instruction.

Perhaps the only conclusion which can be drawn after evaluating

the studies concerned with readiness tests is that distinct values can be derived from the use of such tests. However, the test used should be examined carefully, and other techniques of appraising a child's readiness to read should also be employed.

Teacher appraisal is an important factor which should not be minimized. Readiness tests are used more effectively as instruments for determining the educational needs of the individual child, so that the proper teaching may be planned, than as predictors of reading achievement. If such teaching is successful, the child is ready to learn to read and his success in reading is probable. Instruction which is geared to meeting the needs indicated by readiness test results probably lessens the predictive aspect of the test. If it is important to determine the predictive value of a readiness test, then an experiment must be designed in which no instruction is supplied in any measured aspect of readiness.

## Readiness and the Home

THE ROLE of the parents is an important adjunct in the child's readiness for reading. Educators agree that children whose parents enjoy reading usually anticipate learning to read. Potter emphasized the importance of attitudes emanating from family interest, cultural opportunities through family life, and the child's intellectual curiosity. (52) Benefits resulting from parents reading aloud to their children encompass not only liking books and reading but also giving background which will aid the child in understanding more difficult stories. (43) Among other experiences which can be provided by the home are excursions to museums, parks, and zoos; bus, train, or airplane trips; and selective use of television. (32) The preschool child should be given opportunities for group participation. The ability to follow directions, which involves self-discipline on the part of the child, is of particular value. (27) Provision for learning experiences in the home aids the child in building self-esteem. If parents complain that their child is not learning as rapidly as they feel he should, they may "unwittingly instill a feeling of inferiority" in the child. (29)

A great degree of the child's reading readiness is dependent upon his previous environment. Evans said that the first important factor in the child's reading readiness is the position which books and reading have held in his home. (23)

Information concerning reading readiness which parents need to know should include, according to Kansora (34), the importance of: providing proper diet and rest, taking a child on trips, reading to the child, showing interest in school, and praising and encouraging the child.

A readiness program in which the home played a significant role was conducted in one elementary school in Roseburg, Oregon. The school sent letters to parents of 5-year-old children informing them of a plan to send children's books to the homes so that parents could read to their children. Each book was accompanied by suggestions

of ways in which it could be used. Bulletins were sent to the homes periodically. The children were invited to first grade for one afternoon in May. At the same time, the mothers met with the nurse, the special education director, and the principal. Crain felt that there were definite values in the program: A favorable home-school relationship was established; contact with books was a good experience for the children and probably had a wholesome effect on the parents; the bulletins aided in creating good parent attitudes toward their children's education. (13) Many schools have inaugurated similar programs. Hoggard described procedures employed in one school system which acquainted parents with the school reading program. In February and March a series of conferences was held for parents whose children would enter school the following September. A handbook including information about reading readiness was distributed to parents. Two more conferences were held after the children were enrolled in school. The plan was favorably endorsed by both teachers and parents. (32)

Strang has said that evidence is available which indicates that success or failure in reading has its roots in the preschool years. Parents not only can foster favorable attitudes toward reading, but also can instill a desire to learn to read, help develop the child's speaking vocabulary, encourage his speaking in sentences, answer his questions, and promote his growth in visual and auditory discrimination. Because "each important aspect of reading readiness can be developed casually during the preschool years," Strang emphasizes the fact that the preschool period is an important one and deserves much concern. (67)

The study conducted by Brazziel and Terrell (7), cited previously, indicates that cultural deprivation can be compensated for, at least to a limited degree, by informing parents of the values and purposes of a readiness program and by structuring a program designed to overcome limitations in a child's background.

### Comments

The contribution of the home to the child's readiness for reading is a vital factor, the importance of which should not be minimized. Informing parents of the school reading program is a policy which usually results in parent understanding of school practices and customarily ensures parent-teacher cooperation. If parent awareness of the value of reading aloud to children can be achieved, perhaps the majority of entering first-grade pupils will regard learning to read as a pleasurable and exciting experience.

## Age of Beginning Reading

THE AGE at which children should receive formal reading instruction has been a subject of some controversy. In the early history of the United States, children entered school at a later age than they do at the present time. In some English-speaking countries, the age of school entrance is earlier than it is in the United States. Gray stated that there are radical differences between Scotland and the United States in reading instructional practices. He reported a study conducted by Christian D. Taylor, an attempt to gather information concerning reading readiness by comparison of the early age (5 years) at which Scottish children enter school with that of American children and the effect of the training which Scottish children receive during the first year of school. Analysis of the results of the reading section of the *Metropolitan Achievement Test* revealed that the mean reading age of the Scottish children was 7 years, 5 months. This means, on the average, that the Scottish children were at least a year in advance in reading achievement of American children of the same chronological age. Taylor felt that his findings supported the theory of the Scottish group that reading readiness is not a stage of development to be waited for, but is affected by training.

Although Gray felt that Taylor's findings did not demonstrate any superiority on the part of the Scottish system, he thought that they merited careful consideration in the United States and challenged the validity of several ideas concerning the age of school entrance and the teaching of reading. The contrasting theories may bear examination. The American proposal that the school entrance age should be raised as many children are not ready for reading when they enter school is answered by the Scottish group with the statement that such deficiency is an argument for early school entrance in order that pupils may be given training and experiences to promote reading readiness. In opposition to the theory that the entrance age should be raised for boys, as girls evidence greater

readiness for reading, the results of a study conducted by the Scottish group revealed that no sex differences in reading readiness existed at a chronological age of 6 years and 3 months in children who begin school at 5 years. The theory that postponement of reading until the age of 7 or longer because the frustrations encountered in learning may cause emotional disturbances is refuted by the Scottish belief that such difficulties can be eliminated through proper training between the ages of 5 and 6. (26)

Durkin reported a longitudinal study of children who had learned to read in a nonschool situation prior to entrance into first grade. The study was designed to ascertain the factors responsible for preschool ability in reading and to determine the value of learning to read early. The criterion used for the selection of the children was the ability to identify at least 18 of 37 words which were common to preprimers of three different basal reader series. Any child who had received reading instruction in kindergarten was eliminated. Subjects in the study consisted of 29 girls and 20 boys. The 49 children were tested within the first two weeks of school on the *Gates Primary Word Recognition Test*; the mean was 2.3 with a range of 1.3 to 3.7; the mean on the *Gates Primary Paragraph Reading Test* was 2.1 with a range of 1.3 to 3.7. The mean on the *Stanford-Binet Intelligence Test* was 122 with a range of 91 to 161. Ten of the 49 families involved were bilingual. Family size ranged from one to seven children, with an average of 3.1. Twenty-eight of the children had had an older brother or sister who would have entered the first grade and learned to read when the children were three, four, and five years of age, which suggests sibling influence as a factor in their early reading ability. Help from the mother was the most common source of learning; in the case of 19 children it was the sole source, and for 18 others it was one of the sources. (16)

In another article which concerned the followup of the children, Durkin reported that the average achievement of the group that received help at 3 years of age was 2.6 at the beginning of first grade; the average achievement of children who had help at 5 years was 1.7. At the end of the second year of school, the group which had received help at 3 still showed greater achievement than the others, but the lead was reduced by 4 months. (14)

A relatively recent development in the field of reading is that of introducing reading readiness activities in kindergarten so that children will be able to begin reading upon entrance to first grade. Corwin expressed disapproval of such a procedure. Her thesis is that although such activities are important, the immediate and most important goal of kindergarten is to introduce group activity by

socializing the 5-year-old. A formal type of readiness program cannot meet the needs of active 5-year-olds and thus will not achieve its goal. "Children who are mature enough to profit by training to produce readiness can be prepared to read through a broad and well-planned kindergarten experience." (12)

Durkin states that the emphasis placed upon readying children to read and even teaching reading in the kindergarten stems not only from the educational demand of "Let's have more and let's have it sooner," but also from a recognition of changes in young children which, to a degree, may reflect changes in this world. Since young children are interested in the language which surrounds them, Durkin proposed, for the kindergarten, a planned and systematic effort "to make the most of materials and experiences that are already a part of them." (15)

### Comments

It would be unwise, on the basis of available research, to make the mandatory statement that all children should be given formal reading instruction at a particular age, or even that formal readiness activities should be initiated at a particular time. Individual differences of children preclude such a generalization. Some children may be reading when they enter kindergarten or first grade. Their reading status should be recognized and reading instruction should proceed from that point.

## Summary

With the acceptance of the concept of readiness for any branch of learning has come an almost universal agreement that there is a specialized readiness for beginning reading, usually referred to as reading readiness. Every text on the teaching of reading and every basal series of reading textbooks is concerned with the topic. Current periodicals attest to the continuing interest in reading readiness.

Numerous research studies have demonstrated certain truths about reading readiness: Children vary a great deal in the degree to which they possess the factor; certain of its components can be measured, apparently with some validity; the major value of readiness tests appears to be in guiding instruction; children who have high scores in readiness tests and children with lower scores and a good instructional program in readiness are more successful in learning to read than are those children who are in neither of these categories.

Some disagreement exists among reading authorities on certain aspects of readiness. As yet, research studies have not explored these questions fully. These aspects include: the complete list of separate factors to be thought of as reading readiness, whether or not readiness tests should be judged on their ability to predict reading success, the importance of the social and emotional factors as facets of reading readiness, the amount of time a child should spend in a readiness program, and whether or not every child should be exposed to some readiness work before beginning reading.

Evidence exists that children vary widely in their possession of the elements measured in reading readiness tests. There are several standardized readiness tests which have been in use long enough and whose norms have been tested sufficiently to justify the importance of individual differences.

Since reading involves the visual task of interpreting written symbols and also involves an auditory task and since these same

written symbols stand for spoken sounds in English, a measure of vision and hearing is a part of every readiness test. Because reading is also dependent upon an understanding of the meaning symbolized by words, an evaluation of the child's understanding of language is usually a part of every readiness test. Numerous studies attest the degree of validity to which these factors can be measured.

In general, reading readiness tests serve the function of determining which children of a group are ready to begin reading instruction and those who need particular instruction before they reach that point. As such, readiness tests appear to take on the functions of an inventory or placement device more than that of the rank-ordering or grading function of most tests.

Numerous studies attest to the importance of reading readiness for beginning reading. Children with high scores in readiness tests appear to do well in reading instruction. Children who have low scores in readiness tests appear to achieve in reading only if they have been taught readiness skills before beginning reading instruction.

There is not complete agreement as to the importance, description, or inclusion of certain factors assumed by some to be aspects of reading readiness. While vision and hearing are accepted by all as important to reading readiness, some authorities suggest that only visual and auditory acuity are of concern, while others feel that both acuity and the learned behavior of auditory and visual discrimination are important. While all authorities are concerned with language background, some insist upon a definite knowledge of language tied directly to the beginning reader concepts; others are concerned only with achieving a stated degree of language ability.

Chronological age and mental age are frequently mentioned along with intelligence as components of reading readiness. Some experts feel these factors can be pinpointed at specific ages and levels to insure optimum reading success, while others are of the opinion that other factors are important enough to allow more flexibility in establishing chronological age, mental age, and minimum intelligence standards for optimum success in beginning reading. For administrative reasons the chronological age at which a child begins first grade is established in most of our schools. With the chronological age at or near 6 years, the range within which the mental age can vary is rather narrow, and for most children it does not go below 5 years, an age which some authorities feel is adequate for beginning reading instruction.

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The factors of maturation and social and emotional development are frequently mentioned by some reading authorities as important to reading readiness; others are equally certain that only the directly

learned behaviors are important. The difficulty of measurement in these areas as well as the difficulty of determining causal relationships suggest that these areas of disagreement will not soon be settled.

The proper function of a reading readiness test has been a topic of discussion. Such tests have been used to determine which children are ready to begin reading, to determine what particular readiness instruction is desirable for which children, and to predict eventual reading achievement. The first two of these appear to be legitimate uses of readiness tests. Studies have indicated that children with high scores in readiness tests are able to achieve successfully in reading instruction. It is equally apparent that children with planned programs of readiness instruction, based in large part upon the findings of the readiness test, achieve more satisfactorily in reading instruction than those who attempt reading programs without work in readiness first. The third use of readiness tests, that of predicting success in reading achievement, seems less defensible. Evaluation is difficult because whatever teaching of readiness is done in the basal reading program will necessarily illuminate the ignorance that led to the low score in the readiness test and thus destroy whatever degree of predictability the test possessed. The studies which have attempted to determine this question have led to mixed conclusions. Evidently the concept of readiness has so permeated the basal series that they ordinarily include instruction in reading readiness.

The length of time to be spent in reading readiness is another area of disagreement. Some experts think that all children should spend some time in readiness, while other authorities state that a sizable portion of each group needs no readiness instruction. For those students who need readiness instruction, the estimates of time necessary range from a few days to a whole year. One study indicated that for normal children or at least those within certain limits a maximum period of 8 weeks was justifiable.

In the commercially available readiness programs, the differences of opinion related above appear to be comparatively reconciled in that the readiness programs are similar. In general the materials consist of specific lessons designed to improve visual and auditory perception of letters, words, and sounds. Most of the programs include visual exercises designed to improve the child's ability to see small differences in portrayed objects or designs and listening exercises designed to teach the child to hear the differences in sounds of two such dissimilar noises as a bell and a whistle. Some authorities see little or no use in such exercises but prefer to concentrate the child's attention at once on visual discrimination of words and letters and auditory discrimination of separate sounds in words. The place

of letter name teaching has also come under discussion, with some advocating early teaching of letter names and others wishing to postpone such teaching until the beginning teaching of phonics. Many of the manuals accompanying the readiness books suggest that attention be placed on developing the child's language background pertinent to the subjects to be a part of the basal reading materials.

Research and authoritative opinion seem to agree that the kindergarten and the home have definite roles in developing reading readiness, although disagreement exists as to the extent to which such learning should be planned. As usual in any area of learning the child who comes from a home and kindergarten program where he has been encouraged to learn and use his language, and has had an opportunity to learn a great deal at first hand about his world is better prepared to begin reading than is a child who has not had such advantages. Children most in need of readiness instruction are those who, for one reason or another, have been deprived of these learning opportunities.

With the birth and growth of the concept of reading readiness, as its total importance comes more clearly into focus, and as its dimensions become more apparent, the teaching of reading has come to rest on a firmer base. As this base or knowledge concerning reading readiness becomes firmer still with continued research, so will the teaching of reading itself continue to be strengthened.

## Needed Research in Reading Readiness

There is a distinct need for research in readiness for beginning reading. Many of the studies which have been reported lack statistically sound structuring; in others the size of the sample is too small to allow generalizations to be drawn. A number of areas apparently have not been investigated. In several studies reading readiness tests have been used to predict reading achievement; instructional emphasis then has been placed on the needs indicated by the test results necessarily eliminating any predictive aspect of the test.

A status study might be designed to discover the incidence of visual difficulties sufficient to cause problems in beginning reading but which are not uncovered by the screening devices used in the schools.

A study might be designed to determine the relationship between speech articulation and reading readiness. Such a study would attempt to discover if the child who is poor in articulation is also deficient in reading readiness. It is not known whether the ability to hear separate sounds in words is related to the ability to make those sounds accurately.

Another area which merits investigation concerns sex differences in readiness. Several studies have indicated that scores in reading readiness are higher for girls than for boys. Many studies also show that girls retain their superiority in language through the elementary and secondary school years.

Children from culturally disadvantaged backgrounds frequently experience difficulty in reading. Emphasis should be placed on meeting the particular needs of these children and supplying the background essential if a foundation for reading is to be established. A study might attempt to discover how the needs of these children might best be met and the period of time necessary to meet them. It is possible that the presently available readiness activities are not structured to supply the foundation essential for reading instruction.

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☆ U.S. GOVERNMENT PRINTING OFFICE: 1963—697-257